

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number
WO 2004/000815 A1

(51) International Patent Classification⁷: C07D 217/20, A61K 31/47, A61P 25/28

(74) Common Representative: LES LABORATOIRES SERVIER; 12, place de la Défense, F-92415 Courbevoie Cedex (FR).

(21) International Application Number:
PCT/IB2003/002600

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 16 June 2003 (16.06.2003)

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02121479.4 25 June 2002 (25.06.2002) CN

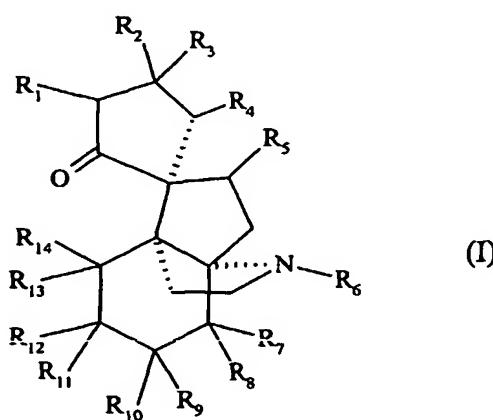
(71) Applicants (for all designated States except US): SHANG-HAI INSTITUTE OF MATERIA MEDICA [CN/CN]; 294 Tai-Yuan Road, Shanghai 200031 (CN). LES LABORATOIRES SERVIER [FR/FR]; 12, place de la Défense, F-92415 Courbevoie Cedex (FR).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ACUTUMINE AND ACUTUMINE COMPOUNDS, SYNTHESIS AND USE



(57) Abstract: The invention relates to acutumine and compounds thereof and also to compounds of formula (I) wherein R₁ and R₂ each represent a hydrogen atom or together form an additional bond, R₃ represents a hydrogen atom or an alkoxy group, R₅ represents a hydrogen or chlorine atom, R₆ represents a hydrogen atom or an alkyl, alkylcarbonyl or amyl group, R₇ and R₁₀ each represent an alkoxy group, R₁₀ represents an alkoxy group, R₄, R₈, R₉, R₁₁, R₁₂, R₁₃ and R₁₄ are as defined in the description.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 03/02600A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07D217/20 A61K31/47 A61P25/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TOMITA, MASAO ET AL: "Alkaloids of menispermaceous plants. CCLIX. Alkaloids of Menispermum dauricum. Structures of acutumine and acutumidine, chlorine-containing alkaloids with a novel skeleton" CHEMICAL & PHARMACEUTICAL BULLETIN (1971), 19(4), 770-91 , XP009020002 chart 4 ---	1-19
A, P	YU B-W ET AL: "Alkaloids from Menispermum dauricum" PHYTOCHEMISTRY, PERGAMON PRESS, GB, vol. 61, no. 4, October 2002 (2002-10), pages 439-442, XP004385776 ISSN: 0031-9422 abstract, Fig. 1, page 441 ---	1-19 -/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

29 October 2003

06/11/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Wolf, C

INTERNATIONAL SEARCH REPORT

Application No.
IB 03/02600

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 749 707 A (CALVO FERNANDO ET AL) 7 June 1988 (1988-06-07) column 1, lines 1-33 -----	1-19